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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/667,176	09/17/2003	John L. White	P214414	8586

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EXAMINER	
TRUONG, THANH K	
ART UNIT	**PAPER NUMBER**
3721	

DATE MAILED: 10/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

NT

Office Action Summary	Application No.	Applicant(s)	
	10/667,176	WHITE, JOHN L.	
	Examiner	Art Unit	
	Thanh K. Truong	3721	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 September 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,4-6,8,9,12,13,15,18,19 and 21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1, 4-6, 8, 9, 12, 13, 15, 18, 19 and 21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on September 12, 2006 has been entered.

2. Applicant's cancellation of claims 2, 3, 7, 10, 11, 14, 16, 17 and 20 is acknowledged.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1, 4-6, 8, 9, 12, 13, 15, 18, 19 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Scheid et al. (6,102,133) in view of Martin et al. (4,844,661).

Scheid et al. discloses an apparatus and a method comprising:

a housing member (10) defining a housing chamber (62); a ram member (26) supported within the housing chamber for movement relative to the housing member between an upper position and a lower position; and a vent port (36) arranged between the lower and upper positions, where the vent port defines a preload position, and

allows ambient air to flow into and out of the housing chamber under predetermined conditions;

a helmet member (12) supported by the housing member for movement relative to the housing member between a rest position and an impact position; and

a lifting assembly (68) engages the ram member to lift the ram member from the lower position to the upper position during each cycle; whereby

when the lifting system raises the ram member above the preload position, ambient air flows into the housing chamber;

when the ram member falls below the preload position, ambient air within a preload chamber portion of the housing chamber compresses to apply a preload force on the inner portion of the helmet member (column 7, lines 17-20); and

when the ram member moves into the lower position, the ram member impacts the helmet member to force the helmet member from the rest position to the impact position, thereby driving the pile.

Scheid et al. discloses the claimed invention, but does not expressly disclose that the lifting assembly at least partly disposed within the housing chamber above the ram member.

However, Scheid et al. discloses that the operation can be switched between "hard hammering" (diesel type) and "soft hammering" (drop hammer type) (column 1, lines 35-37).

Martin et al. discloses an apparatus and a method in which a lifting assembly (2, 7) disposed above the ram member, and engaged the ram member (3) to lift the ram member from the lower position to the upper position during each cycle (abstract –

figures 1 & 2) providing a simple and economical means to lift and to release the ram member (column 1, lines 15-25).

Therefore, it would have been obvious to one having ordinary skill in the art, at the time applicant's invention was made, to have modified Scheid et al. method and apparatus by incorporating the lifting assembly as taught by Martin et al. (replacing Scheid et al. lifting mechanism with Martin et al. lifting mechanism) providing a simple and economical means to lift and to release the ram member.

The Scheid et al. modified by Martin et al. further disclose: the ram member moves from the lower position to the upper position and back to the lower position to define an operating cycle; the lifting assembly engages and lifts the ram member from the lower position to the upper position once during each operating cycle.

air is prevented from flowing through the vent port when the ram member is below the preload position (column 7, lines 17-20); seal system for sealing the preload chamber portion of the housing chamber when the ram member is below the preload position (figure 1 of Scheid et al. shows ram 26 and helmet member 12 have seal members at their distal ends); and the ram member defines a ram side wall; the housing member defines a housing interior wall; the seal system comprises a ram seal for inhibiting fluid flow between the ram side wall and the housing interior wall (Scheid et al. inherently discloses these limitations, because the system was designed also for diesel type hammering as well as drop hammer type).

It is further construed that the pile inherently being secured by the drop hammer in order for the pile to be driven into the ground.

Response to Arguments

5. Applicant's arguments filed September 12, 2006 have been fully considered but they are not persuasive.

6. In response to the Applicant's arguments that:

> *"The Scheid et al. reference fails to describe in significant detail what happens to the pressures within the working space below the hammering piston when the hammering piston is falling during the pressure air operating mode ... the Applicant respectfully submits that the Scheid et al. reference fails to disclose, teach, or suggest a structure that effectively applies a preload force to the hammering member as recited in claims 1, 13 and 18",*

it is not found persuasive for the following reasons:

> In column 7, lines 17-20 Scheid et al. discloses:
>
> *"Upon further upward movement the hammering piston 26 will take in fresh air through the working slot 36, and upon the hammering piston falling down the air contained in the cylinder will be compressed once the hammering piston 26 has moved past the working slot 36 in downward direction" (emphasis added);*

this passage clearly teaches, and suggests the structure that effectively applies a preload force to the hammering member as recited in claims 1, 13 and 18, and moreover, the Scheid et al. **modified** by Martin et al. provides a lifting mechanism that satisfies the claimed as recited in claims 1, 13 and 18.

7. In response to the Applicant's arguments that:

> *"The Applicant further respectfully submits that, if one of ordinary skill in the art modifies the Scheid et al. reference to eliminate the pressure air lifting system and include only the mechanical lifting assembly of the Martin reference, the resulting system would not necessarily operate in the same manner as the invention recited in claims 1, 13, and 18. For example, the Martin reference discloses the use of conduits 4c to allow fluid to flow through the anvil 4 as the hammer 3 strikes the anvil 4. These conduits would prevent the type of fluid compression between the hammer and anvil that creates the preload force described in claims 1, 13, and 18.*

> *The Applicant thus respectfully submits that, even if proper, the combination of the Scheid et al. and Martin reference would not necessarily operate in a manner that is similar to that of the systems and methods recited in claims 1, 13, and 18";*

it is not found persuasive because Martin et al. reference is purely relied upon for the teaching of the lifting mechanism (for example see figure 12). Other structure limitations not being relied upon are irrelevant.

8. In response to the Applicant's arguments that:

> *"absent the Applicant's own disclosure, the Examiner has failed to establish proper motivation for combining the Scheid and Martin reference";*

it is not found persuasive for the following reasons:

Scheid et al. discloses that:

> *"There are other prior art pile hammers, wherein a hammering piston is lifted by means-of a hydraulic actuator arranged outside of a guiding cylinder, the hammering piston thereafter being allowed to fall freely onto the hammering member. Such softly operating pile hammers are used particularly, where piles and the like must be hammered into soft soil or where production of heavy nose as produced by Diesel type pile hammers cannot be tolerated."* (emphases added) (column 1, lines 19-26), and

> *"The object of the present invention is to improve a pile hammer such that its mode of operation* ***can be switched*** *between* ***hard*** *hammering and* ***soft*** *hammering."* (emphases added) (column 1, lines 35-37).

Scheid et al. clearly teaches and suggests that it is possible to switch between diesel hammering type and drop hammering type. The Martin reference is further demonstrated that drop hammering type is old and well known.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thanh K. Truong whose telephone number is 571-272-4472. The examiner can normally be reached on Mon-Thru 8:00AM - 6:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rinaldi Rada can be reached on 571-272-4467. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Thanh K. Truong
Patent Examiner
October 8, 2006.